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10/817,109

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James G. Withers

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EXAMINER

TRAN, TRANG U

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/817,109

Applicant(s)

WITHERS ET AL.

Examiner

Trang U. Tran

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-36,46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-36,46 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species II, claims 18-36 and 46-47 in the reply filed on October 03, 2007 is acknowledged.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 46-47 are rejected under 35 U.S.C. 101 because the claimed invention is direct to non-statutory subject matter as follows. Claims 46-47 defines a machine-readable medium embodying function description material. However, the claimed does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "when functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized"- Guidelines Annex IV). That is, the scope of the presently claimed machine-readable medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claimed to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18-36 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cookson et al. (US Patent No. 7,167,209 B2) in view of Barton et al. (US Patent No. 6,215,526 B1).

In considering claim 18, Cookson et al discloses all the claimed subject matter, note 1) the claimed accessing a video signal, the video signal comprising a plurality of frames is met by the incoming video signal (Fig. 6, col. 5, lines 10-48), and 2) the claimed producing a modulated video signal by raising luminance of a first field and lowering luminance of a second field of the plurality of frames in a substantially invisible way is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48).

However, Cookson et al explicitly do not disclose the claimed a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames.

Barton et al teach that the methods described herein operate interchangeably on fields of an interlaced signal (such as NTSC video) or on frames of a progressive signal

(such as the output of a normal computer monitor), thus the terms "**field**" and "**frame**" are used interchangeably (Fig. 2, col. 5, lines 1-25).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the frame as taught by Barton et al into Cookson et al's system in order to enable frames accurate encoding of a sequence of video fields or frames.

In considering claim 19, the claimed wherein producing a modulated video signal comprises: producing a modulated video signal by raising luminance of a first plurality of pixels of a first frame of the plurality of frames and lowering luminance of a second plurality of pixels of a second frame of the plurality of frames in a substantially invisible way is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al).

In considering claim 20, the claimed wherein the first plurality of pixels includes a same selection of pixels as the second plurality of pixels is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al).

In considering claim 21, the claimed wherein at least some of the first plurality of pixels are located in the first frame at a same location of at least some of the second plurality of pixels in the second frame is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al).

In considering claim 22, the claimed wherein the first plurality of pixels includes an entire portion of pixels of the first frame and the second plurality of pixels includes the entire portion of pixels of the second frame is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al).

In considering claim 23, the claimed wherein producing a modulated video signal comprises: producing a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames in a substantially invisible way, the first frame and the second frame being consecutive frames of the plurality of frames is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al) and the frames of Barton et al (Fig. 2, col. 5, lines 1-25).

In considering claim 24, the combination of Cookson et al and Barton et al disclose all the limitations of the instant invention as discussed in claim 18 above, except for providing the claimed wherein producing a modulated video signal comprises: producing a modulated video signal by raising luminance of a first frame by a first amplitude level of at least two amplitude levels and lowering luminance of a second frame of the plurality of frames by a second amplitude level of the at least two amplitude levels in a substantially invisible way.

The capability of using raising luminance of a first frame by a first amplitude level of at least two amplitude levels and lowering luminance of a second frame of the

plurality of frames by a second amplitude level of the at least two amplitude levels is old and well known in the art. Therefore, the Official Notice is taken.

It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the old and well known using of raising luminance of a first frame by a first amplitude level of at least two amplitude levels and lowering luminance of a second frame of the plurality of frames by a second amplitude level of the at least two amplitude levels into the combination of Cookson et al and Barton et al's system in order to increase the quality of the video signal.

In considering claim 25, the claimed wherein accessing a video signal comprises: receiving an analog video signal generated at a signal source is met by the incoming video signal (Fig. 6, col. 5, lines 10-48 of Cookson et al). However, the combination of Cookson et al and Barton et al explicitly do not disclose the claimed digitizing the analog video signal. The capability of using digitizing the analog video signal is old and well known in the art. Therefore, the Official Notice is taken. It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the old and well known using of digitizing the analog video signal into the combination of Cookson et al and Barton et al's system in order to process the video signal in digital form and thus, increase the quality of the video signal.

In considering claim 26, the claimed wherein accessing a video signal comprises: receiving a digital video signal generated at a signal source is met by the digital video stream (col. 9, line 29 to col. 10, line 22 of Barton et al.).

In considering claim 27, the claimed wherein accessing a video signal further comprises: accessing a vertical sync signal; and determining a timing of the plurality of frames from the vertical sync signal, the timing usable for a determination of where in the video signal to begin modulation. The capability of using accessing a vertical sync signal; and determining a timing of the plurality of frames from the vertical sync signal, the timing usable for a determination of where in the video signal to begin modulation is old and well known in the art. Therefore, the Official Notice is taken. It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the old and well known using of accessing a vertical sync signal; and determining a timing of the plurality of frames from the vertical sync signal, the timing usable for a determination of where in the video signal to begin modulation into the combination of Cookson et al and Barton et al's system in order to accurately synchronizing the video signal.

In considering claim 28, the claimed wherein accessing a video signal further comprises: accessing encoding instructions for the video signal is met by the encoding of the incoming video signal (Fig. 6, col. 5, lines 10-48 of Cookson et al).

In considering claim 29, the claimed wherein producing a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames comprises: producing a modulated video signal by raising luminance of a first frame of the plurality of frames and lowering luminance of a second frame of the plurality of frames is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al) and the frames of Barton et al

(Fig. 2, col. 5, lines 1-25). However, the combination of Cookson et al and Barton et al explicitly do not disclose the claimed raising luminance of a first frame of the plurality of frames by increasing a first signal by 50-70 mV and lowering luminance of a second frame of the plurality of frames by increasing a second signal by 50-70 mV.

The capability of using raising luminance of a first frame of the plurality of frames by increasing a first signal by 50-70 mV and lowering luminance of a second frame of the plurality of frames by increasing a second signal by 50-70 mV is old and well known in the art. Therefore, the Official Notice is taken.

It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the old and well known using of raising luminance of a first frame of the plurality of frames by increasing a first signal by 50-70 mV and lowering luminance of a second frame of the plurality of frames by increasing a second signal by 50-70 mV into the combination of Cookson et al and Barton et al's system in order to increase the quality of the video signal.

In considering claim 30, the claimed wherein the second frame is located prior to the first frame in the video signal. The capability of using the second frame is located prior to the first frame in the video signal is old and well known in the art. Therefore, the Official Notice is taken. It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the old and well known using of the second frame is located prior to the first frame in the video signal into the combination of Cookson et al and Barton et al's system in order to increase the quality of the video signal.

In considering claim 31, the claimed wherein the second frame is located after the first frame in the video signal is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48 of Cookson et al).

Claim 32 is rejected for the same reason as discussed in claim 26.

Claims 33-34 are rejected for the same reason as discussed in claims 18-19, respectively.

In considering claim 35, Cookson et al discloses all the claimed subject matter, note 1) the claimed the video signal comprising a plurality of frames is met by the incoming video signal (Fig. 6, col. 5, lines 10-48), and encoding a signal presence in the digital video signal by increasing luminance of a first frame of the plurality of frames and decreasing luminance of a second frame of the plurality of frames in a substantially invisible way, the first frame and the second frame being consecutive frames of the plurality of frames is met by the voltage controlled amplifier which raised by 10% on the first of two field adjacent lines and lowered by 10% on the second of two field adjacent lines (Fig. 6, col. 5, lines 10-48).

However, Cookson et al explicitly do not disclose the claimed accessing a digital video signal and a modulated video signal by raising luminance of a first frame and lowering luminance of a second frame of the plurality of frames.

Barton et al teach that the methods described herein operate interchangeably on fields of an interlaced signal (such as NTSC video) or on frames of a progressive signal

(such as the output of a normal computer monitor), thus the terms "**field**" and "**frame**" are used interchangeably (Fig. 2, col. 5, lines 1-25).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the frame as taught by Barton et al into Cookson et al's system in order to enable frames accurate encoding of a sequence of video fields or frames.

In considering claim 36, the claimed further comprising: encoding a signal absence in the digital video signal by decreasing luminance of a third frame of the plurality of frames and increasing luminance of a fourth frame of the plurality of frames in a substantially invisible way, the third frame and the fourth frame being consecutive frames of the plurality of frames is met by the video sequence of Barton et al because the video sequence has at least four frames (Fig. 2, col. 5, lines 1-25).

Claims 46-47 are rejected for the same reason as discussed in claims 18-19, respectively.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ilan et al. (US Pub. No. 2005/0264694 A1) disclose method and apparatus for transferring data within viewable portion of video signal.

Mead (US Patent No. 5,644,363) discloses apparatus for superimposing visual subliminal instructional materials on a video signal.


Jensen et al (US Patent No. 5,305,104) disclose digitally assisted motion compensated deinterlacing for enhanced definition television.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 5, 2007



Trang U. Tran
Primary Examiner
Art Unit 2622